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SEQUENCE LISTING

<110> International Flower Developments Pty Ltd
 Brugliera, Filippa (US only)
 Demelis, Linda (US only)
 Koes, Ronald (US only)
 Tanaka, Yoshikazu (US only)

<120> Genetic sequences and uses therefor

<130> 2606090/EJH

<140> Not yet available

<141> 2003-01-24

<150> AU PS0174/02

<151> 2002-01-25

<160> 47

<170> PatentIn version 3.1

<210> 1

<211> 969

<212> DNA

<213> Dife

<400> 1

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agagagcatg agctactcaa agaactaaca aaagcttcat tcgagaatta taaagcagcg	180
agctttatgg gtcttctca agatgaagcc cagtttctat cgatgttcct aaagctcata	240
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cttgctttgc cagaagatgg gaaagtaata gcaattgacc cggacagaga ggcataatgag	360
gttggtattc cttatattca gaaggctggg gtggaacata agatcgagtt cattcaatca	420
gaagccgtgc ccgttcttga aaaactcctc tctaacgaga aagaagcagg gacatttgat	480
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ctttcagagg atgatccaat gccagaaggt ttaagagcat taaggggaca tgttatgaag	660
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cgcgaaagata tgtactagat gtatgtcagg ggttgaattt attgaattta tgttgttgag	840
aagaacaaaa gttctatatt tgtgtgtgtt gcaagtattt gaaacttgta ggagcctttt	900

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ggttgccttg aataagaaaa tcttttacag tcttttagct taaaaaaaaa aaaaaaaaaa 960
 aaaaaaaaaa 969

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Thr Gly Lys Thr Ala His Pro Gly Ile Leu Arg Ser Asp Ala Leu Arg
 20 25 30

Lys Tyr Ile Leu Glu Thr Ser Val Tyr Pro Arg Glu His Glu Leu Leu
 35 40 45

Lys Glu Leu Thr Lys Ala Ser Phe Glu Asn Tyr Lys Ala Ala Ser Phe
 50 55 60

Met Gly Leu Pro Gln Asp Glu Ala Gln Phe Leu Ser Met Phe Leu Lys
 65 70 75 80

Leu Ile Asn Ala Lys Lys Thr Leu Glu Ile Gly Val Phe Thr Gly Tyr
 85 90 95

Ser Leu Leu Val Thr Ala Leu Ala Leu Pro Glu Asp Gly Lys Val Ile
 100 105 110

Ala Ile Asp Pro Asp Arg Glu Ala Tyr Glu Val Gly Leu Pro Tyr Ile
 115 120 125

Gln Lys Ala Gly Val Glu His Lys Ile Glu Phe Ile Gln Ser Glu Ala
 130 135 140

Val Pro Val Leu Glu Lys Leu Leu Ser Asn Glu Lys Glu Ala Gly Thr
 145 150 155 160

Phe Asp Phe Val Phe Ile Asp Ala Asp Lys Glu Asn Tyr Leu Lys Tyr
 165 170 175

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His Glu Ile Val Leu Lys Leu Val Lys Val Gly Gly Val Ile Gly Tyr
 180 185 190

Asp Asn Thr Leu Trp Phe Gly Thr Val Ala Leu Ser Glu Asp Asp Pro
 195 200 205

Met Pro Glu Gly Leu Arg Ala Leu Arg Gly His Val Met Lys Val Asn
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Ser Phe Leu Ala Thr Asp Pro Arg Val Glu Val Ala Gln Leu Ser Ile
 225 230 235 240

Gly Asp Gly Leu Thr Leu Cys Arg Arg Leu Ser
 245 250

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 <212> DNA
 <213> oligonucleotide

<400> 3
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 <211> 888
 <212> DNA
 <213> E20

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 tacatttttg aaacctcagt ttatccaaga gagcatgagc tactcaaaga actaacaaaa 180
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 ttgaagtacc atgagatagt gctaaaattg gtgaaagttg gaggagtgat aggatatgac 600
 aacaccttat ggtttgggac agtggcactt tcagaggatg atccaatgcc agaaggttta 660

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agagcattaa ggggacatgt tatgaaggtc aatagctttt tagctactga ccctcgtgtt 720
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 <212> PRT
 <213> E20

<400> 5

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 20 25 30

Ala His Pro Gly Ile Leu Arg Ser Asp Ala Leu Arg Lys Tyr Ile Leu
 35 40 45

Glu Thr Ser Val Tyr Pro Arg Glu His Glu Leu Leu Lys Glu Leu Thr
 50 55 60

Lys Ala Ser Phe Glu Asn Tyr Lys Ala Ala Ser Phe Met Gly Leu Pro
 65 70 75 80

Gln Asp Glu Ala Gln Phe Leu Ser Met Phe Leu Lys Leu Ile Asn Ala
 85 90 95

Lys Lys Thr Leu Glu Ile Gly Val Phe Thr Gly Tyr Ser Leu Leu Val
 100 105 110

Thr Ala Leu Ala Leu Pro Glu Asp Gly Lys Val Ile Ala Ile Asp Pro
 115 120 125

Asp Arg Glu Ala Tyr Glu Val Gly Leu Pro Tyr Ile Gln Lys Ala Gly
 130 135 140

Val Glu His Lys Ile Glu Phe Ile Gln Ser Glu Ala Val Pro Val Leu
 145 150 155 160

Glu Lys Leu Leu Ser Asn Glu Lys Glu Ala Gly Thr Phe Asp Phe Val

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	165		170		175	
Phe Ile Asp	Ala Asp Lys Glu Asn Tyr Leu Lys Tyr His Glu Ile Val					
	180		185		190	
Leu Lys Leu Val Lys Val Gly Gly Val Ile Gly Tyr Asp Asn Thr Leu						
	195		200		205	
Trp Phe Gly Thr Val Ala Leu Ser Glu Asp Asp Pro Met Pro Glu Gly						
	210		215		220	
Leu Arg Ala Leu Arg Gly His Val Met Lys Val Asn Ser Phe Leu Ala						
	225		230		235	240
Thr Asp Pro Arg Val Glu Val Ala Gln Leu Ser Ile Gly Asp Gly Leu						
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Thr Leu Cys Arg Arg Leu Ser						
	260					

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 <211> 1077
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 <213> E33

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 ctagtgtgta tccaagagaa cacgagcaac tcaaagaact cacacaagcc tcattcgata 180
 agtataaaat agtgagcttg atgggtgtgc ctccagatga agcccaattt ctctcgatgc 240
 tcttaaaaat aatgaatgca aagaagacaa tggagattgg agtttttacc gggtattctc 300
 ttctggctac tgctcttgca ttgccagaag atggaaaaat tatagcgatt gatccggaca 360
 gagaagcata tgaggttgga ttgccatata ttcagaaggc tgggtgtggag cataagattg 420
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tcaattggtg atggtcttac ccttggcagg cgtctcagct agtttatttt tcgtataatc      780
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tttaagtttg gttcgtccat ctgctaaaga agtcacgatt tcgtcttgta gacgagctat      960
agtatgcatt tgcatttttg ttaatttcgc atgtagtggt gaaatgtgaa ttacccaaaag    1020
caaaagtaat aaaatgttta catttggtgt gttttaaaaa aaaaaaaaaa aaaaaaa      1077

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<210> 7
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<212> PRT
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<400> 7

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Ile Ser Lys Asp Phe Thr Glu Ser Met Ala Gly Lys Ser Gly His Gly
1           5           10           15

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Ser Ile Leu Gln Ser Glu Ala Leu Lys Lys Tyr Ile Phe Glu Thr Ser
          20           25           30

```

```

Val Tyr Pro Arg Glu His Glu Gln Leu Lys Glu Leu Thr Gln Ala Ser
          35           40           45

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```

Phe Asp Lys Tyr Lys Ile Val Ser Leu Met Gly Val Pro Pro Asp Glu
          50           55           60

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Ala Gln Phe Leu Ser Met Leu Leu Lys Ile Met Asn Ala Lys Lys Thr
65           70           75           80

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Met Glu Ile Gly Val Phe Thr Gly Tyr Ser Leu Leu Ala Thr Ala Leu
          85           90           95

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Ala Leu Pro Glu Asp Gly Lys Ile Ile Ala Ile Asp Pro Asp Arg Glu
          100          105          110

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Ala Tyr Glu Val Gly Leu Pro Tyr Ile Gln Lys Ala Gly Val Glu His
          115          120          125

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Lys Ile Glu Phe Ile Gln Ser Glu Ala Leu Pro Val Leu Glu Lys Leu
          130          135          140

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Leu Ser Asn Gly Glu Glu Glu Gly Thr Phe Asp Phe Ile Phe Ile Asp

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<210> 9
<211> 32
<212> DNA
<213> oligonucleotide
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<400> 9
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<210> 10
<211> 31
<212> DNA
<213> oligonucleotide
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<400> 10
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<210>	11
<211>	1006
<212>	DNA

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<213> TMT5.

<400> 11

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agacaagtgc ctatccacga gaacatccgc agctcaaaga actaaggagc gcaactgtgg    180
acaagtatca atattggagc ttgatgaatg ttccagctga tgaggggcag ttcatttcaa    240
tgttactgaa aattatgaac gcaaaaaaga caattgaagt tggagttttc acaggctact    300
cactcctatc aactgctctg gctctacctg atgatggcaa aatcgttgcc attgatcctg    360
atagagaagc ttatgagact ggtttgccat ttatcaagaa agcaaacgtg gctcataaaa    420
tccaatacat acaatctgat gccatgaaag tcatgaatga cctcattgct gccaggggag    480
aagaagaaga ggggagcttt gactttgggt tcgtggatgc agacaaagaa aactacataa    540
actaccacga gaaactgttg aagctgggta aggttggagg gatcatagga tacgacaaca    600
ctctgtgggc tggaacagtt gctgcatctg aagacgatga gaataatatg cgagactact    660
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tgtttcagca tcttatattt ctattgttct aaatatttta gttatcttgt ttatcaactt    900
gtctgtctta tatgtttaaa agaaagatgt catgtaattg taactcgatc gggctcttgt    960
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<212> PRT

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Met Lys Asp Lys Phe Tyr Gly Thr Ile Leu Gln Ser Glu Ala Leu Ala
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Lys Tyr Leu Leu Glu Thr Ser Ala Tyr Pro Arg Glu His Pro Gln Leu
20           25           30

```

```

Lys Glu Leu Arg Ser Ala Thr Val Asp Lys Tyr Gln Tyr Trp Ser Leu
35           40           45

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Met Asn Val Pro Ala Asp Glu Gly Gln Phe Ile Ser Met Leu Leu Lys
 50 55 60

Ile Met Asn Ala Lys Lys Thr Ile Glu Val Gly Val Phe Thr Gly Tyr
 65 70 75 80

Ser Leu Leu Ser Thr Ala Leu Ala Leu Pro Asp Asp Gly Lys Ile Val
 85 90 95

Ala Ile Asp Pro Asp Arg Glu Ala Tyr Glu Thr Gly Leu Pro Phe Ile
 100 105 110

Lys Lys Ala Asn Val Ala His Lys Ile Gln Tyr Ile Gln Ser Asp Ala
 115 120 125

Met Lys Val Met Asn Asp Leu Ile Ala Ala Lys Gly Glu Glu Glu Glu
 130 135 140

Gly Ser Phe Asp Phe Gly Phe Val Asp Ala Asp Lys Glu Asn Tyr Ile
 145 150 155 160

Asn Tyr His Glu Lys Leu Leu Lys Leu Val Lys Val Gly Gly Ile Ile
 165 170 175

Gly Tyr Asp Asn Thr Leu Trp Ser Gly Thr Val Ala Ala Ser Glu Asp
 180 185 190

Asp Glu Asn Asn Met Arg Asp Tyr Leu Arg Gly Cys Arg Gly His Ile
 195 200 205

Leu Lys Leu Asn Ser Phe Leu Ala Asn Asp Asp Arg Ile Glu Leu Ala
 210 215 220

His Leu Ser Ile Gly Asp Gly Leu Thr Leu Cys Lys Arg Leu Lys
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<210> 14
<211> 35
<212> DNA
<213> TMT5.PstI.R

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<210> 15
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<223> N = A or G or C or T

<220>
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<222> (24)..(24)
<223> N = A or G or C or T

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<210> 16
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<212> DNA
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<223> Y = C or T

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<210> 17
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31

<210> 18
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<223> R = A or G

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<210> 19
<211> 45
<212> DNA

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<213> dT(17)Ad2Ad1

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45

<210> 20

<211> 36

<212> DNA

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<221> misc_feature

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<223> I = deoxyinosine

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<222> (34)..(35)

<223> I = deoxyinosine

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36

<210> 21

<211> 780

<212> DNA

<213> Fuchsia FMT

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tttattcaga aagctggagt gggacataag atcaacttca tcaatggtga cgcacttgca 180

gtactcgacg atcttattgc agacggaaaa gatcaagagg ggagttttga ttttgcgttc 240

gtggatgcta acaaggaaga ttacatcaag taccacgaac agctgcttaa acttgtaacg 300

gtaggtggct tgatctgcta cgacaacacc ctgtgggttcg ggtcgggtggc gctctccgaa 360

gaagatccca tggacgagtt tatgagaagc ggcaggggtcc cgcttaggaa gttgaacgac 420

ttcctcgcaa atgacccccg tatcgagtca tgctttgttt ccacgggtga tggcctcacc 480

ctctgccgcc gccgcctcta atgcatctcg agagagttac tggcccctag ctagctagct 540

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tggattctgc gtactatcca gtggcgccctt ttgttgcatc tatctatatt tctagtttat      660
tatatgtacc atattcgctt ccgatatgtg cgaataagtc ggatgccatg cttccgatgg      720
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<210> 22
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<212> PRT
<213> Fuchsia FMT

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<400> 22

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Thr Ile Glu Ile Gly Val Phe Thr Gly Tyr Ser Leu Leu Cys Thr Ala
1           5           10           15

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Leu Ala Leu Pro Pro Asp Gly Lys Ile Thr Ala Ile Asp Pro Asp Lys
          20           25           30

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Glu Ala Tyr Glu Thr Gly Leu Pro Phe Ile Gln Lys Ala Gly Val Gly
          35           40           45

```

```

His Lys Ile Asn Phe Ile Asn Gly Asp Ala Leu Ala Val Leu Asp Asp
50           55           60

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```

Leu Ile Ala Asp Gly Lys Asp Gln Glu Gly Ser Phe Asp Phe Ala Phe
65           70           75           80

```

```

Val Asp Ala Asn Lys Glu Asp Tyr Ile Lys Tyr His Glu Gln Leu Leu
          85           90           95

```

```

Lys Leu Val Lys Val Gly Gly Leu Ile Cys Tyr Asp Asn Thr Leu Trp
          100          105          110

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Phe Gly Ser Val Ala Leu Ser Glu Glu Asp Pro Met Asp Glu Phe Met
          115          120          125

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Arg Ser Gly Arg Val Pro Leu Arg Lys Leu Asn Asp Phe Leu Ala Asn
          130          135          140

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Asp Pro Arg Ile Glu Ser Cys Leu Val Ser Ile Gly Asp Gly Leu Thr
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Leu Cys Arg Arg Arg Leu

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<213> OMTIf1

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<223> R = A or G

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27

<210> 24
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<223> R = A or G

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<223> R = A or G

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<220>
 <221> misc_feature
 <222> (24)..(24)
 <223> N = A or G or C or T

<220>
 <221> misc_feature
 <222> (27)..(27)
 <223> N = A or G or C or T

<400> 24
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28

<210> 25
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 <212> DNA
 <213> OMTIr4

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 <223> R = A or G

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 <222> (32)..(32)
 <223> R = A or G

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 <223> N = A or G or C or T

<400> 25
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34

<210> 26
 <211> 1079
 <212> DNA
 <213> E.33

<400> 26
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 gcaaaagcgg acatggctcc attcttcaaa gtgaagccct caagaagtac atcttcgaaa 120
 ctagtgtgta tccaagagaa cagcagcaac tcaaagaact cacacaagcc tcattcgata 180

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agataaaaat agtgagcttg atgggtgtgc ctccagatga agcccaattt ctctcgatgc      240
tcttaaaaat aatgaatgca aagaagacaa tggagattgg agtttttacc ggttattctc      300
ttctggctac tgctcttgca ttgccagaag atggaaaaat tatagcgatt gatccggaca      360
gagaagcata tgaggttgga ttgccatata ttcagaaggc tgggtgtggag cataagattg      420
aattttattca atcagaagcc ttaccagtac tcgaaaaact cctctctaac ggtgaggaag      480
aaggaacatt tgatttcata ttcattgatg ctgataagga gaactatctg aagtaccatg      540
agatagtact aaaattgggtg aaagtgggag gagtgatagg ctatgacaac acattatggt      600
ttgggaccgt ggcactttca gatgatgatc ctataccaca aggcttaaga gaattgagga      660
gatcggtttt gaagatcaac agtttttttag ctactgatcc tcgcattgaa ttagctcatc      720
tttcaattgg tgatgggtctt acccttgga ggcgtctcag ctagtattatt tttcgtataa      780
tcatctgaat tccggaatcc attatcttta tagttttttg tttttcagta ctagtgatat      840
ttttcagtcc ccacttatgg ataacactgg gtaatgagta ttgttgcaga agtagtgaca      900
tttttaagtt tggttcgtcc atctgctaaa gaagtcacga tttcgtcttg tagacgagct      960
atagtatgca tttgcatttt ggtaatttc gcatgtagtg ttgaaatgtg aattaccaaa    1020
agcaaaagta ataaaatggt tacatttggt gtgtttttaa aaaaaaaaaa aaaaaaaaaa    1079

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<210> 27
<211> 20
<212> DNA
<213> Ad1

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<400> 27
ctgagagaac tagtctcgag      20

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<210> 28
<211> 28
<212> DNA
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<400> 28
ccctcgagtt tctattttgt gtgtgttg      28

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<210> 29
<211> 26
<212> DNA
<213> petD8#2

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<400> 29
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<210> 30
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<212> DNA
<213> PMT-F

<400> 30
actaccaagg atcctactga agca

24

<210> 31
<211> 20
<212> DNA
<213> PMT-R

<400> 31
ctcgaatgaa gcttttgtta

20

<210> 32
<211> 24
<212> DNA
<213> TMT-F

<400> 32
cataaatagg atccgcagca gcaa

24

<210> 33
<211> 20
<212> DNA
<213> TMT-R

<400> 33
agtctcataa gcttctctat

20

<210> 34
<211> 22
<212> DNA
<213> FucR1

<400> 34
gcaagtgcag tgcaaagaag ag

22

<210> 35
<211> 20
<212> DNA
<213> FucR3

<400> 35
gatcttatgt tccactccgc

20

<210> 36
<211> 20

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<212> DNA
 <213> FucR5

<400> 36
 gagagatctg accagtaagg 20

<210> 37
 <211> 24
 <212> DNA
 <213> FucR6

<400> 37
 ggatattttt cggccgtgac ctcc 24

<210> 38
 <211> 24
 <212> DNA
 <213> FucF1

<400> 38
 atcttagaga cgactgctta tccc 24

<210> 39
 <211> 68
 <212> DNA
 <213> Tor-5' pos

<400> 39
 aattcgcagc aaaaatgaaa gataagttct atggcaccat ttgcagagc gaagccctcg 60

caaagtat 68

<210> 40
 <211> 63
 <212> DNA
 <213> Tor-5' neg

<400> 40
 tactttgcga gggcttcgct ctgcaaaatg gtgccataga acttatcttt catttttgct 60

gcg 63

<210> 41
 <211> 841
 <212> DNA
 <213> Fuchsia FMT (3282)

<400> 41
 atcttagaga cgactgctta tcccggagaa aatgagcatc tgaagcaact ccgggaggtc 60

acggccgaaa aatatcctta ctggagcatg atgaatgtgt caattgacga gggacaactt 120

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```

atatcgctaa tattgaagct catgaacgcg agaaagacat tagagatcgg cgtcttcact 180
ggctattctc ttctttgcac tgcacttgct ttgcctcccg atggcaagat aacagcgatc 240
gaccccgaca aagaagctta cgagaccggg ctgccattta ttcagaaagc tggagtggaa 300
cataagatca acttcatcaa tggtgacgca cttgcagtac tcgacgatct tattgcagac 360
ggaaaagatc aagaggggag ttttgatttt gcgttcgtgg atgctaacaa ggaagattac 420
atcaagtacc acgaacagct gcttaaactg gtcaaggtag gtggcttgat ctgctacgac 480
aacaccctgt gggtcgggtc ggtggcgctc tccgaagaag atcccatgga tgagtttatg 540
aggagcggca ggggtcccaat taggaagttg aacgacttcc tcgcaaata ccccgatc 600
gagtcatgcc ttgtttccat cgggtgatggc atcaccctct gccgccgccg cctctaagtc 660
atctcgagag agttactggc ccctagctag ctagctcggt gttgttatat atatatatta 720
tccgattgat atgtggattc tcaccatatg taagtggatt ctgtgtacta tccagtggcg 780
ccttttggtg catctatcta tttttctagt ttattttatg taccaaaaaa aaaaaaaaaa 840
a 841

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<210> 42
<211> 218
<212> PRT
<213> Fuchsia FMT (3282)

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<400> 42

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```

Ile Leu Glu Thr Thr Ala Tyr Pro Gly Glu Asn Glu His Leu Lys Gln
1           5           10           15

```

```

Leu Arg Glu Val Thr Ala Glu Lys Tyr Pro Tyr Trp Ser Met Met Asn
          20           25           30

```

```

Val Ser Ile Asp Glu Gly Gln Leu Ile Ser Leu Ile Leu Lys Leu Met
          35           40           45

```

```

Asn Ala Arg Lys Thr Leu Glu Ile Gly Val Phe Thr Gly Tyr Ser Leu
          50           55           60

```

```

Leu Cys Thr Ala Leu Ala Leu Pro Pro Asp Gly Lys Ile Thr Ala Ile
65           70           75           80

```

```

Asp Pro Asp Lys Glu Ala Tyr Glu Thr Gly Leu Pro Phe Ile Gln Lys
          85           90           95

```

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Ala Gly Val Glu His Lys Ile Asn Phe Ile Asn Gly Asp Ala Leu Ala
 100 105 110

Val Leu Asp Asp Leu Ile Ala Asp Gly Lys Asp Gln Glu Gly Ser Phe
 115 120 125

Asp Phe Ala Phe Val Asp Ala Asn Lys Glu Asp Tyr Ile Lys Tyr His
 130 135 140

Glu Gln Leu Leu Lys Leu Val Lys Val Gly Gly Leu Ile Cys Tyr Asp
 145 150 155 160

Asn Thr Leu Trp Phe Gly Ser Val Ala Leu Ser Glu Glu Asp Pro Met
 165 170 175

Asp Glu Phe Met Arg Ser Gly Arg Val Pro Ile Arg Lys Leu Asn Asp
 180 185 190

Phe Leu Ala Asn Asp Pro Arg Ile Glu Ser Cys Leu Val Ser Ile Gly
 195 200 205

Asp Gly Ile Thr Leu Cys Arg Arg Arg Leu
 210 215

<210> 43

<211> 943

<212> DNA

<213> Fuchsia FMT full (3289)

<400> 43

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caaagtatat cttagagacg accgcttata ccggagaaaa tgagcatctg aagcaactcc      120
gggaggtcac ggccgaaaaa tatccttact ggagcatgat gaatgtgtca attgacgagg      180
gacaacttat atcgctaata ttgaagctca tgaacgcgag aaagacatta gagatcggcg      240
tcttcactgg ctattctctt ctttgcactg cacttgcttt gcctcccgat ggcaagataa      300
cagcgatcga ccccgacaaa gaagcttacg agaccgggct gccatttatt cagaaagctg      360
gagtggaaca taagatcaac ttcacatcaat gtgacgcact tgcagtactc gacgatctta      420
ttgcagacgg aaaagatcaa gaggggagtt ttgattttgc gttcgtggat gctaacaagg      480
aagattacat caagtaccac gaacagctgc ttaaactggt caaggtaggt ggcttgatct      540

```

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```

gctacgacaa caccctgtgg ttccgggtcgg tggcgctctc cgaagaagat cccatgggatg    600
agtttatgag gagcggcagg gtcccaatta ggaagttgaa cgacttcctc gcaaattgacc    660
cccgatcga gtcatgcctt gtttccatcg gtgatggcat caccctctgc cgccgcccgcc    720
tctaattgat ctcgagagag ttactggccc ctagctagct agctcgttgt tggtatatat    780
atatattatc cgattgatat gtggattctc accatatgta cgtggattct gtgtactatc    840
cagtggcgcc ttttggtgca tctatctata tttctagttt attttatgta ccaaaaaaaaa    900
aaaaaaaaag cttgttctac agctcgagac tagttctctc aaa                        943

```

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<210> 44
<211> 236
<212> PRT
<213> Fuchsia FMT full (3289)

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```

<400> 44

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```

Met Lys Asp Lys Phe Tyr Gly Thr Ile Leu Gln Ser Glu Ala Leu Ala
1           5           10           15

```

```

Lys Tyr Ile Leu Glu Thr Thr Ala Tyr Pro Gly Glu Asn Glu His Leu
          20           25           30

```

```

Lys Gln Leu Arg Glu Val Thr Ala Glu Lys Tyr Pro Tyr Trp Ser Met
          35           40           45

```

```

Met Asn Val Ser Ile Asp Glu Gly Gln Leu Ile Ser Leu Ile Leu Lys
          50           55           60

```

```

Leu Met Asn Ala Arg Lys Thr Leu Glu Ile Gly Val Phe Thr Gly Tyr
65           70           75           80

```

```

Ser Leu Leu Cys Thr Ala Leu Ala Leu Pro Pro Asp Gly Lys Ile Thr
          85           90           95

```

```

Ala Ile Asp Pro Asp Lys Glu Ala Tyr Glu Thr Gly Leu Pro Phe Ile
          100          105          110

```

```

Gln Lys Ala Gly Val Glu His Lys Ile Asn Phe Ile Asn Gly Asp Ala
          115          120          125

```

```

Leu Ala Val Leu Asp Asp Leu Ile Ala Asp Gly Lys Asp Gln Glu Gly
          130          135          140

```

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Ser Phe Asp Phe Ala Phe Val Asp Ala Asn Lys Glu Asp Tyr Ile Lys
 145 150 155 160

Tyr His Glu Gln Leu Leu Lys Leu Val Lys Val Gly Gly Leu Ile Cys
 165 170 175

Tyr Asp Asn Thr Leu Trp Phe Gly Ser Val Ala Leu Ser Glu Glu Asp
 180 185 190

Pro Met Asp Glu Phe Met Arg Ser Gly Arg Val Pro Ile Arg Lys Leu
 195 200 205

Asn Asp Phe Leu Ala Asn Asp Pro Arg Ile Glu Ser Cys Leu Val Ser
 210 215 220

Ile Gly Asp Gly Ile Thr Leu Cys Arg Arg Arg Leu
 225 230 235

<210> 45
 <211> 8
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<400> 45
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8

<210> 46
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 <212> DNA
 <213> oligonucleotide

<400> 46
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8

<210> 47
 <211> 8
 <212> DNA
 <213> oligonucleotide

<400> 47
 ggatcgacc

8